

WHAT IS CLAIMED IS:

1. A method of treating a patient diagnosed as having, or at risk for developing, an autoimmune or proliferative disease, the method comprising:
 - (i) providing a purified population of CD25⁺ ICOS⁺ cells from a donor, and
 - (ii) administering the cells to the patient in an amount and for a time sufficient to improve a sign or symptom of the autoimmune disease in the patient.
2. The method of claim 1, wherein some or all of the CD25⁺ ICOS⁺ cells are also CD4⁺.
3. The method of claim 1, wherein the patient is diagnosed as having, or is at risk for developing, graft versus host disease (GVHD).
4. The method of claim 3, wherein the GVHD is acute GVHD.
5. The method of claim 3, wherein the GVHD is chronic GVHD.
6. The method of claim 3, wherein the GVHD is a steroid-refractory GVHD.
7. The method of claim 1, wherein the patient is diagnosed as having, or is at risk for developing, a cancer.
8. The method of claim 7, wherein the cancer is a lymphocytic cancer.
9. The method of claim 8, wherein the lymphocytic cancer is cutaneous T cell lymphoma.
10. The method of claim 1, wherein the patient receives an ECP therapy prior to step (i).
11. The method of claim 1, wherein the patient has received, or is scheduled to receive, a transplant.

12. The method of claim 1, wherein the patient is further administered a second therapeutic regimen.
13. The method of claim 12, wherein the second therapeutic regimen comprises an ECP therapy, an antibody, a cytokine therapy, or a chemotherapy,.
14. The method of claim 12, wherein the second therapeutic regimen comprises an immunosuppressive drug.
15. The method of claim 1, further comprising monitoring the patient for an indication that a sign or symptom associated with the autoimmune disorder has been alleviated.
16. A composition comprising a purified population CD25⁺ ICOS⁺ cells provided from a donor, wherein the donor received an ECP therapy prior to providing the CD25⁺ ICOS⁺ cells.
17. A method of treating a patient diagnosed as having, or at risk for developing, an autoimmune disorder, the method comprising administering to the patient a population of cells expressing an ICOS ligand to the human.
18. The method of claim 17, wherein the ICOS ligand is a B7H or B7H2 polypeptide.
19. A method of increasing ICOS⁺ T cell levels in a mammal, the method comprising administering an ICOS ligand to the mammal.
20. The method of claim 19, wherein the ICOS ligand is a B7H or B7H2 polypeptide.
21. The method of claim 19, wherein the mammal is a human.
22. A method of treating a patient diagnosed as having, or at risk for developing, an autoimmune disorder, the method comprising:
 - (i) providing CD4⁺ ICOS⁺ cells purified from a donor, and
 - (ii) administering the isolated cells to the patient.

23. A method of assessing a patient for an appropriate treatment of an autoimmune disorder, the method comprising:

- (i) administering an ECP therapy to the patient;
- (ii) determining that (A) if the patient demonstrates an increase in ICOS⁺ CD25⁺ cells following the ECP therapy, then the patient is likely to have a positive response to further ECP therapy; and (B) if the patient does not demonstrate an increase in ICOS⁺ CD25⁺ cells following the ECP therapy, then further ECP treatments are not likely to reduce the symptoms of the autoimmune disorder, thereby assessing the patient for an appropriate therapy.

24. A pharmaceutically acceptable or physiologically compatible composition comprising purified ICOS⁺ CD25⁺ T cells and/or ICOS⁺ CD4⁺ and/or ICOS⁺ CD25⁺ CD4⁺ T cells and a pharmaceutically acceptable carrier.